

OBJECTIVE

Suggest optimal refuel stops based on accurate fuel range predictions and gas costs.

BACKGROUND

- Research Project!
- Gas Prices change frequently
- OBD II ports hold lots of data

VALUE PROPOSITION

By monitoring the cars remaining milage with fuel levels and the MAF(Mass Air Flow), we look to recommend the best gas stations for your situation. Using an application that is connected to your car and your desired destination, we can use our database of gas prices and locations to recommend the best options for your trip.

KEY REQUIREMENTS

- Research what is possible!
- Risk Assessments
- Access OBD II Data
- Evaluate Accuracy
- Account for any situation
- Improve fuel range estimate
- Locate gas stations and prices



VALIDATION

- AC MAF Test
- Cobb | ELM 327 comparison
- Test Drive
- Dual OBD II readers

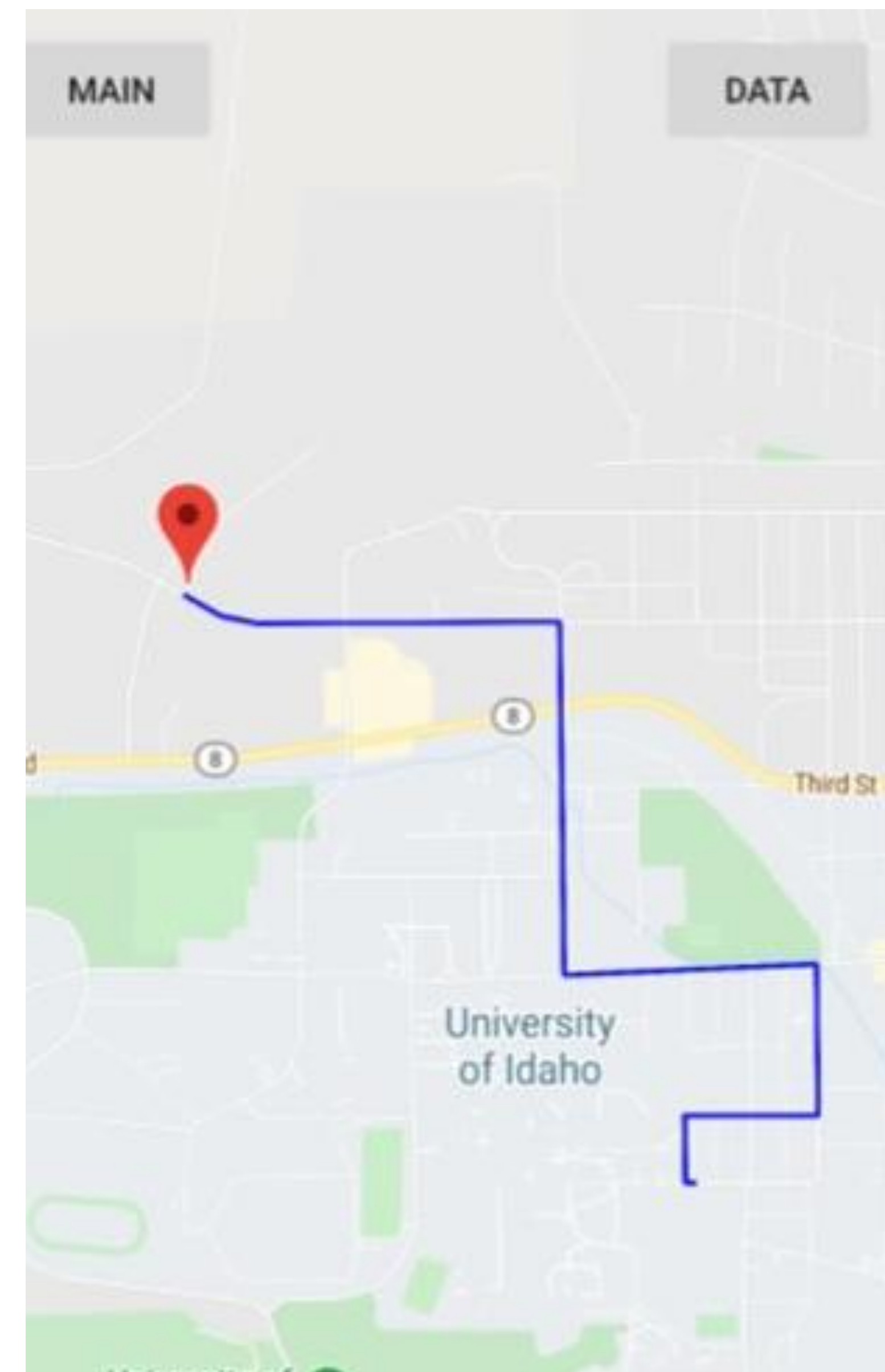
OBD II DATA

Idling Fuel Consumption: 0.22896488 Litre
 Driving Fuel Consumption: 3.5471487 Litre
 Instant Fuel Consumption: 7.584365 L/100km
 driving maf: 27804.535 g/s
 idle maf: 1706.0516 g/s
 Fuel Type: 14.7
 Rapid Acceleration Times: 1
 Rapid Decleration Times: 1
 Max Rpm: 3541
 Max Speed: 124 km/h
 Driving Duration: 26.7527 minute
 Idle Duration: 12.755466 minute
 Distance since codes cleared: 6447km
 Distance traveled with MIL on: 0km
 Intake Manifold Pressure: 85.0 kpa
 Air Intake Temperature: 280.15 C
 Fuel Consumption Rate: null L/h
 Fuel Level: 37.3%
 Fuel Pressure: null
 Engine Fuel Rate: null
 Engine Coolant Temperature: 85C
 Engine Load: 81.6%
 Engine oil temperature: 88C
 Barometric Pressure: 94kPa
 Air/Fuel Ratio: 14.65:1 AFR
 Wideband Air/Fuel Ratio: 14.67:1 AFR
 Absolute load: 69.0%
 Control Module Power Supply : 14.0V
 Command Equivalence Ratio: 0.0%

ELM 327

This chip plugs into a car's OBD II port. Using Bluetooth, it connects to a phone and transmits the car's data

CONCEPT DEVELOPMENT



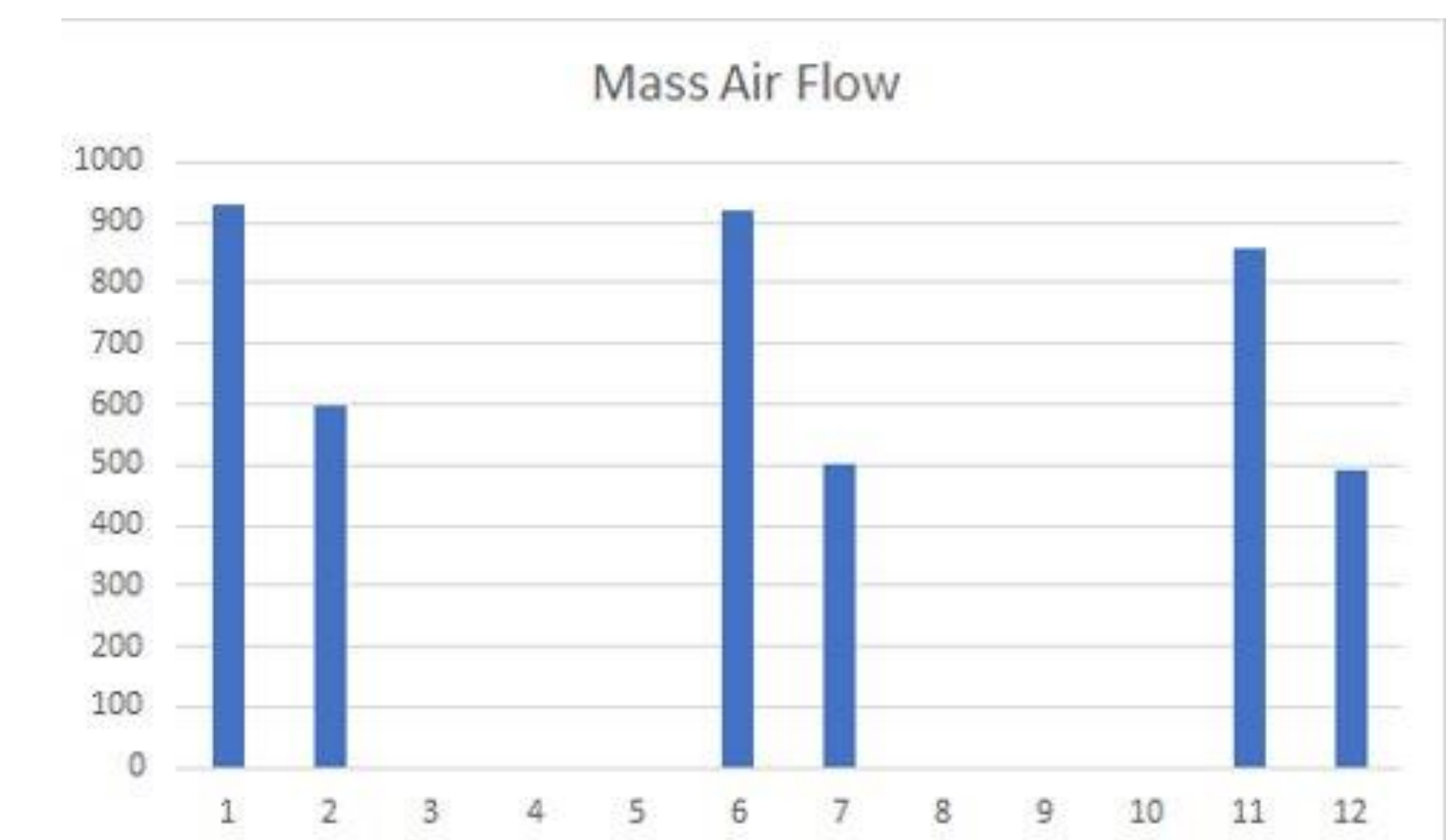
User map interface example.

SAMPLE DIRECTIONS

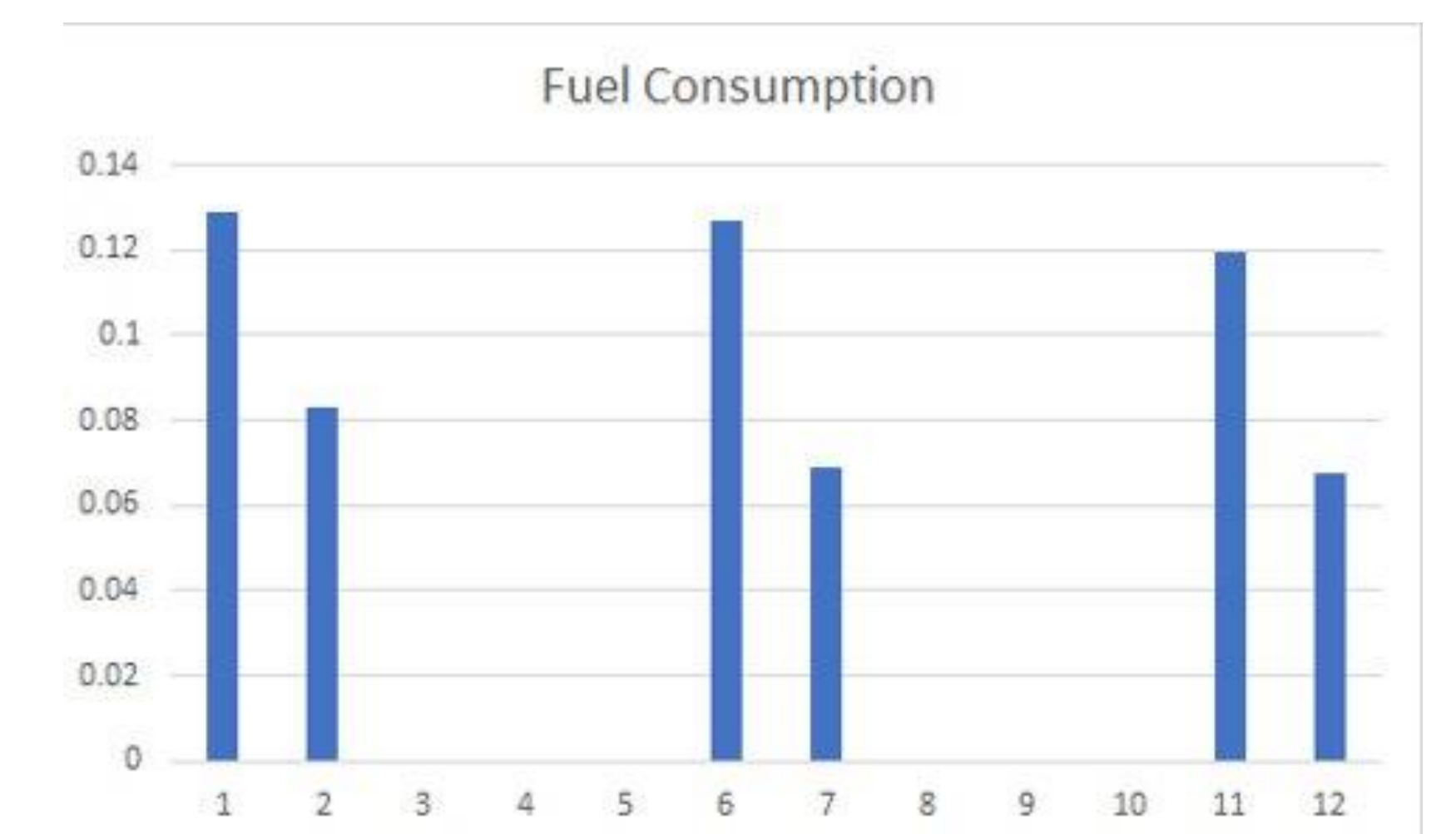
```
total duration 5 hours 52 mins
total distance 364 mi
single leg distance 0.7 mi
single leg distance 7.4 mi
single leg distance 417 ft
single leg distance 2.4 mi
```

An example of directions broken into legs. We use this to predict where the user is expected in X miles. Each leg comes with start & end coordinates. This allows us to search for gas anywhere along the route.

MAF TESTS



AC MAF test pt1



AC MAF test pt2

RECOMMENDATIONS

The next steps for this project should be fuel oriented. Research and implement machine learning model using MAF data. And find a long-term solution for gas pricing .

CONCLUSION

With more development, this app has the potential to save consumers significant time and money. This could also prevent running out of gas and avoid putting the user in poor situations.

ACKNOWLEDGMENTS

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